

farm. *K. tecta* is found to regularly occur in the pond opposite Ram Mandir in Janakpur. I suspect the range of this species in Dhanusa district to be from the Nepal-Bihar border north to just south of the east-west highway, as suitable habitat is known throughout that area. Further north lies the Bhabar zone, contiguous to the southern slope of the Siwalik

hills, an area lacking in surface water resources to support the occurrence of *K. tecta*. I have previously reported this finding along with documented photographs to the Robert L. Flemings of Kathmandu, Nepal.

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18. FIRST RECORD OF THE MILK FISH, *CHANOS CHANOS* (FORSKAL, 1775) FROM IRAN AND THE PERSIAN GULF

The milkfish is a euryhaline, littoral marine species found from the Red Sea and the east coast of Africa through the Indian Ocean to Japan and Australia and through the Pacific Ocean to the west coast of North America (Schuster 1960). It is an important food fish which can be cultured in water of various salinities and its natural distribution is therefore of interest, particularly in respect to the Persian Gulf where adverse environmental conditions do not favour production of protein on the adjacent land and protein consumption of local populations is deficient (Surber 1969).

Eleven specimens of the milkfish were picked up dead from the Baghu River, Hormozdgan Province, Iran (27°18'N, 56°27'E) on 27 November 1976. This locality lies about 14 river kilometres from the Persian Gulf at the Strait of Hormuz. There has not been any

previous record of this species from Iran or the Persian Gulf despite surveys by Blegvad and Loppenthin (1944), Khalaf (1961), Mahdi (1962), Kuronuma and Abe (1972) and Saadati (1977). Boulenger (1887) reported the milkfish from Muscat, about 460 km. southeast of the Baghu River.

Meristic and morphometric data are given below and are in general agreement with published information for other parts of the species range (Schuster 1960, Fowler 1956, Day 1875-1878, Misra 1976). Some differences in morphology are due to these measurements having been made on juvenile specimens which also have the distal parts of paired fins fragmented. Schuster (1960) notes that the head is relatively shorter and broader in older specimens. Dorsal fin IV 11-12, anal fin III 7-8, ventral fin 9-11, total vertebrae including hypural plate as one vertebra 42-43, lateral

MISCELLANEOUS NOTES

line scales to hypural plate 70-79, scales above lateral line 11-14, below lateral line 10-12, predorsal scale rows 18-23. Morphometric data is based, like meristic data, on all 11 specimens unless total length or caudal fin length is involved. Three specimens had an incomplete, damaged caudal fin precluding measurement of total length and caudal length; these specimens fell within the range of total length given below judging by their standard lengths. The range for each morphometric character is followed by the mean and standard deviation in parentheses where appropriate. Total length 91.8-128.9 mm (mean 112.5); standard length 70.5-98.5 (mean 86.91); head length in total length 4.35-4.71 (4.52, 0.1314); caudal fin length in total length 3.83-4.23 (4.05, 0.1447); body depth in total length 5.65-6.39 (6.01, 0.2371); head length in standard length 3.34-3.57 (3.47, 0.0813); body depth in standard length 4.32-4.79 (4.63, 0.1494); orbit diameter in head length 2.88-3.13 (2.99, 0.0832); snout length in head length 4.03-4.57 (4.32, 0.1819); interorbital width in head length 3.32-3.58 (3.45, 0.1165); maxilla length in head length 3.80-4.59 (4.28, 0.2315); orbit diameter in snout length 0.64-0.77 (0.69, 0.0456); orbit diameter in interorbital width 0.82-0.91 (0.87, 0.0305); pectoral fin length in head length 1.65-1.87 (1.75, 0.0665); pelvic fin length in head length 2.17-2.79 (2.54,

0.2016); caudal fin length in head length 0.81-0.96 (0.90, 0.0424); anal fin base length in dorsal fin base length 1.77-2.23 (2.03, 0.1398).

The specimens were found in a warm, shallow, mud-bottomed backwater which had a temperature of 16°C after some insolation. Mortality was probably due to exposure to low temperatures in the colder main watercourse. Milkfish become paralysed at 13°C and die at about 12°C even higher temperatures where exposure is prolonged (Schuster 1960). Temperature is also the factor most likely to be responsible for the absence of milkfish from the Persian Gulf since surface water temperatures fall below 19°C, and in certain littoral areas below 15°C, in winter. Any attempt at culturing this species in the Gulf would therefore require a source of heated water in winter, particularly for shallow ponds, as air temperatures can fall below 0°C in winter.

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19. OCCURRENCE OF *ZEBRIAS KERALENSIS* JOGLEKAR (PISCES: SOLEIDAE) OFF VISAKHAPATNAM, WITH A NOTE ON ITS TAXONOMY

One soleid flat fish, belonging to the genus *Zebrias* Jordan & Snyder, was collected from trawl catches off Visakhapatnam, and identified as *Zebrias keralensis* Joglekar. Hitherto it has been recorded only from the Arabian Sea, at Alleppy on Kerala Coast (South West India). The present record extends the distribution of the species to the North East Coast of India also.

Material: One specimen measuring 120.0 mm (S.L.), collected from trawl catches, off Visakhapatnam, on 30-12-78.

Description: Counts: D.67; A.57; C.17; P. (eyed) 13; P. (blind) 11; V. 4; L. 1.83.

Measurements: Depth of body 41.6, length of head 20.8 per cent of S.L. Snout 24.0, Eye diameter 20.2, Post orbital distance 60.6, Snout to angle of mouth 32.0, angle of mouth to gill opening 64.0, length of right pectoral 36.0, length of left pectoral 20.0 per cent of head length.

Coloration: In formalin, light brown with 13

dark cross bands extending on to vertical fins. Third cross band spindle shaped. Pectoral on ocular side dark. Caudal dark with white spots. Blind side white.

Diagnosis: The specimen agrees with the description of *Z. keralensis*, which can be easily distinguished from the closely resembling *Z. synapturooides* on the basis of Lateral line scale count (75-93), and longer pectoral fin on ocular side (33-42 % in head), characteristic of the species. The range of scale count of *Z. keralensis* includes that of *Z. cochiniensis* Rama Rao (1967).

Taxonomic note: Rama Rao (1967), described *Zebrias cochiniensis* as a new species, on the basis of single specimen collected at Cochin, off Vypeen Island. The morphometric measurements and meristic counts of *Z. cochiniensis* are not different from those of *Zebrias keralensis* Joglekar (1976). There is however a marked difference in the band pattern and caudal fin ray count, while the counts of ven-